Qty: 50 µg/200 µl

Rabbit anti-Connexin 36

Catalog No. 51-6200

Lot No.

Rabbit anti-Connexin 36

FORM
Liquid. This affinity-purified, polyclonal antibody is supplied as a 200 µl aliquot at a concentration of 0.25 mg/ml in 10 mM phosphate buffered saline, pH 7.4, containing 0.1% sodium azide as a preservative.

POLYCLONAL ANTIBODY DESIGNATION (PAD): CYL5 **ISOTYPE:** Rabbit Ig

IMMUNOGEN
Peptide corresponding to a sequence located in the cytoplasmic loop between the second and third transmembrane domains of rat and mouse Connexin 36 (Cx36). This sequence differs from the human Cx36 protein by a single amino acid.

SPECIFICITY
This antibody can be used to specifically detect the Cx36 protein (~36 KDa). Antibody specificity was confirmed by Western blotting with lysates from rat retina and olfactory bulb. A homodimer may be observed.

REACTIVITY
This antibody reacts with rat and mouse Cx36. Reactivity was confirmed by immunocytochemistry with frozen sections from rat brain (stained: olfactory bulb and inferior olive), retina (stained: inner and outer plexiform layers, inner nuclear layer), and spinal cord (stained: gray matter). Human reactivity is likely but has not been confirmed. Reactivity with other species has not been evaluated.

Sample	ELISA	Western Blotting
Human		Likely
Mouse		+
Rat		+
Immunogen	+	

USAGE
Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The following concentration ranges are recommended starting points for this product.

ELISA: 0.1-1.0 µg/ml
Western Blotting: 1 µg/ml

The suitability of this antibody for applications other than those listed here has not been determined.

STORAGE
Store at 2-8°C for up to one month. Store at -20°C for long term storage. Avoid repeated freezing and thawing.

BACKGROUND
Intercellular communication through gap junctions plays an important role in a variety of cellular processes including homeostasis, morphogenesis, cell differentiation, and growth control. [1-4] Gap junctions are transmembrane channels that directly link neighboring cells by mediating the exchange of low-molecular weight (<1200 kDa) metabolites, ions, and second messengers. Gap junctions are formed by the interaction of hemichannels (connexons) on adjacent cells. Connexons are hexameric assemblies of connexin proteins. At least 14 connexin genes are known.

(cont'd)

Structural features common to connexin proteins include a cytoplasmic NH_2-terminal tail, four transmembrane domains, two extracellular loops and a C- terminal cytoplasmic tail of varying length. Sequence comparisons reveal the greatest divergence between connexins occurs at the second intracellular loop and at the cytoplasmic tail.[1,2] These domains are thought to mediate connexin type-specific properties including phosphorylation, response to gating stimuli, connexon assembly and membrane turnover. Modulation of gap junction communication can be achieved by multiple mechanisms and can occur very rapidly over a period of several hours. These mechanisms include alterations in transcription, translation, stability, post-translational processing (especially phosphorylation), gating, and insertion or removal from the plasma membrane. Interestingly, reduction or alteration in the levels or types of connexin expressed in a given cell type has been found to correlate with tumor progression and metastasis[5].

The murine Cx36 gene encodes a protein of 321 amino acids most homologous to connexin 35.[6,7] Based on the presence of an intron within its coding region the Cx36 gene is suggested to form a new delta subclass of murine connexin genes.[7] Cx36 is the first gap junction protein expressed predominantly in neuronal cells of the mammalian central nervous system. It is highly expressed in adult retina and is present in neurons of the inferior olive, the olfactory bulb, the CA3/CA4 hippocampal subfields and several brain-stem nuclei.[6] Cx36 mRNA expression in brain increases gradually during fetal development until day 7 post-partum when its expression begins to decline.[7] Biophysical measurements of gap junction channels formed by transfected and endogenous Cx36 indicate that they posess unique properties well suited for mediating flexible electrical and biochemical interactions between neurons.[8]

REFERENCES

1. Kumar, M. and Gilula, M.B., *Cell* 84:381:388 (1996).
2. Saez, J.C., et al., In *Advances in Second Messenger and Phosphoprotein Research*; eds S., Shenolikar and A., Narin. Raven Press, New York (1993).
3. Bennet, M.V.L., et al., *Neuron* 6:305-320 (1990).
4. Kuraoka, A., et al., *J. Histochem. and Cytochem.* 41:971-980 (1993).
5. Wilgenbus, KK., et al., *Int. J. Cancer* 51:522-529 (1992).
6. Condorelli DF, et al., *Eur J Neurosci.,* 10:1202-1208 (1998).
7. Sohl G, et al., *FEBS Lett*., 428:27-31 (1998).
8. Srinivas M, et al., *J Neurosci* 19(22):9848-55 (1999).

RELATED PRODUCTS

Product	***PAD*/Clone***	***Cat. No.***
Ms x Connexin 26	CX-12H10	13-8100
Ms x Connexin 26	CX-1E8	33-5800
Rb x Connexin 26	UM214	51-2800
Rb x Connexin 26	Z-Z8	71-0500
Rb x Connexin 30	Z-PP9	71-2200
Ms x Connexin 30	Z-PP9	71-2200
Ms x Connexin 32	CX-2C2	13-8200
Ms x Connexin 32	Z-AA6	71-0600
Rb x Connexin 36 (CT)	CY44	51-6300
Ms x Connexin 43	CX-1B1	13-8300
Rb x Connexin 43	Z-JB1	71-0700
Ms x Connexin 50	C6	33-4300
Connexin Sampler Pack (26,32,43)	3 Abs + Controls	90-0500
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

*PAD- polyclonal antibody designation

Conjugate	**ZyMAX™ Goat x Rabbit IgG (H+L)**	**ZyMAX™ Goat x Mouse IgG (H+L)**
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

For Research Use Only